UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

July 11, 2016

Director of Project Development
Texas Department of Transportation
7600 Washington Avenue
Houston, TX 77007

RE: Grand Parkway State Highway 99 Segment B Improvement Project in Brazoria and Galveston Counties in Texas

Dear Sir or Madam:

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office, Dallas, Texas has completed its review of the proposed project by Texas Department of Transportation (TxDOT).

EPA provided comments on the Draft Environmental Impact Statement (DEIS) on September 21, 2012, in which the DEIS was rated as "EC-2", i.e., EPA has "environmental concerns and requests additional information". EPA continues to have environmental concerns. We offer the following enclosed comments for your consideration and ask they be addressed in the Record of Decision (ROD).

Thank you for the opportunity to comment on the FEIS. Please send a copy of the ROD to my attention. If you have any questions or concerns, please contact Kimeka Price at (214) 665-7438 or price.kimeka@epa.gov for assistance.

Sincerely,

Robert Houston, Chief
Special Projects Section
Compliance Assurance and Enforcement Division

Enclosure

DETAILED COMMENTS
ON THE
TEXAS DEPARTMENT OF TRANSPORTATION
FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR
GRAND PARKWAY STATE HIGHWAY99 SEGMENT B
IN BRAZORIA AND GALVESTON COUNTIES IN TEXAS

Consultation and Coordination with Indian Tribes

The FEIS states TxDOT initiated consultation with federally recognized Native American tribes whom demonstrated historic interest in the area on February 22, 2008, and the tribal consultation comment period ended on July 26, 2013 without any expressions of concerns. Considering TxDOT made minor alignment adjustments to the Preferred Build Alternative identified in the DEIS, EPA recommends TxDOT continue with open communication and dialogue during this comment period, provide updated information, and fully consider and address any concerns raised.

Environmental Justice and Surrounding Communities

The FEIS identifies public scoping meetings and workshops were held on September 26, 2003, October 4, 2003, August 21 and 23, 2012, in an effort to locate, inform, and seek input from interested organizational groups and individuals. Also, it states the Preferred Build Alternative underwent minor alignment adjustments, after the conclusion of the comment period for the DEIS. There would be thirteen (13) business and seventeen (17) residential displacements, thirty-one (31) noise receiver locations that would experience noise impacts, and additional right-of-way needs. EPA recommends TxDOT commits to implementing specific mitigation measures for adverse impacts.

National Historic Preservation Act Section 109 Consultation

In Section 3.16.1 Archeological Resources, the FEIS identifies the historic Confederate Cemetery is directly adjacent to the study area near the intersection of SH 35 with Shirley Avenue. Additionally, the records revealed sites within 2 kilometers of the current study area, and there are five pre-historic sites at Camp Mohawk County Park. FEIS indicates further studies are needed when additional right-of-way is secured. EPA recommends describing the distance from cultural resources to the Alternative Alignments. Also, EPA recommends TxDOT incorporate concurrence from Texas State Historic Preservation Officers and Advisory Council on Historic Preservation on the conclusions reached.

Neighborhoods and Community Cohesion

In Section 4.3.1 Neighborhoods and Community Cohesion, the FEIS states there are over 100 existing neighborhoods/subdivisions located within or near the project study area, and all named roadways traversing the Preferred Build Alternative would be bridged or re-routed to accommodate existing traffic. Further, it states that there would be no community cohesion impacts with the implementation of the Preferred Build Alternative. However, the FEIS is not clear in Exhibits 2-10 and 2-11 Preferred Build Alternative and Residential Communities delineation of neighborhood boundaries and transportation infrastructure relating to community cohesion. EPA recommends exhibits that clearly delineate the determination of no community cohesion impacts.

2.0 Alternative Analysis

The FEIS states that prior to the August 2012 Public Hearing coordination with stakeholders and review of the South-New Alternative by the design engineers resulted in a revision of the alignment that differed slightly from what was presented in the DEIS. Specifically, in the western portion of the alignment, the radius of the southeastern turn east of SH 288 was minimized to reduce the proposed roadway's impact on the underlying land parcel. In the southwestern portion of the alignment, Brazoria County requested that the proposed alignment be shifted from the north side of Brunner Ditch to the south side so as not to interrupt surface storm water flows moving southward toward the ditch. The revised South-New Alternative alignment was presented at the Public Hearing. After the August 2012 Public Hearing, coordination with the public, stakeholders, adjacent property owners, and the design engineers resulted in slight modifications and a revised alignment for the recommended South-New Alternative to create what is currently the Preferred Alternative. The FEIS states the primary goal for considering alignment revision was to continue to avoid impacts and work with all interested parties to determine the alignment that best fit the purpose and need of the proposed State Highway 99 Segment B, in addition to accommodating current engineering standards. However, the FEIS does not clearly delineate the revisions, discuss avoided or change in impacts, or if there is new information to require further public review and comment.

According to 40 CFR 1502.14[1], the Alternatives section "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. FEIS identifies Tables 2-1 Preliminary Alternative Alignment Evaluation Matrix and 2-2 Candidate Alternative Alignment Evaluation Matrix. Within Table 2-1, EPA recommends an explanation of the heading "Community Bisector (No. Affected)." Also, EPA recommends adequate alternative screening analysis, which includes a comparison of alternatives, a clear basis for alternative selection, and substantial and equally detailed treatment to each alternative considered. Table 4-26 should be included in this section. EPA notes that TxDOT ranked low, moderate and high level of risks associated with potential impacts from regulated hazardous material sites in Section 4.17.1 and Table 4-25.

[1] http://ceq.hss.doe.gov/NEPA/regs/ceq/1502.htm

Farmlands

All Alternative Alignments would impact agricultural lands. Converting productive agricultural lands to transportation uses not only directly converts that land from arable land to impervious surfaces, but reduces the amount of food and fiber produced in the region. In Appendix B, FEIS identifies the critical score of 174 for the proposed project. Since the critical score is above 160, U.S. Department of Agriculture (USDA) recommends the alternatives would not convert prime farmland soils, or attempt to minimize the conversion of farmland soils in final project development. Further, the FEIS states coordination with USDA will continue. EPA recommends incorporating USDA concurrence on the conclusions reached and address any issues raised by USDA. Additionally, EPA recommends full disclosure of local and regional economic impacts of converting farmland to transportations uses, including additional conversion by induced development and analysis of farmland access and farm equipment travel time.

3.9.1 Navigable Waters of the United States (U.S.), page 3-42

Section 3.9.1 of the FEIS updates the presence of navigable waters of the United States within the study area, which include tidal tributaries to Dickinson Bayou - Bordens Gully (Segment 1103B) and Geisler Bayou (Segment 1103C), and a portion of Chocolate Bayou. Section 4.9.1 of the FEIS states that the only tidal water segment which traverses the Preferred Alternative Right-of-Way (ROW) is Geisler Bayou, as identified by Texas Commission of Environmental Quality (TCEQ). However, the FEIS does not specifically discuss potential impacts to these tidal/navigable waters of the U.S. EPA recommends incorporation of potential impacts to these tidal/navigable waters of the U.S. and reconcile any conflicting identification of tidal/navigable waters of the U.S.

The FEIS anticipates that most impacts to navigable waters would be avoided by constructing a bridge over the bayou crossing. It further states that coordination with the U.S. Army Corp. of Engineers (USACE) may be necessary to authorize bridge construction should the bridge structure require discharges of dredged or fill material into waters regulated by the USACE under Section 10 of the Rivers and Harbors Act. EPA recommends that any impacts associated with such crossing applicable under Clean Water Act Section 404 be addressed.

3.9.3 Wetlands, page 3-42

The Executive Summary and Section 4.9.3 Wetlands of the FEIS state that right-of-entry was still not granted for approximately 70 percent of the Preferred Alternative ROW. As such, a detailed delineation of waters of the U.S., including wetlands, could not be performed. Instead, USGS 7.5-minute topographic quadrangle maps, recent color aerial photography, and available LiDAR data were reviewed to determine the location of potential wetlands, and observations were made at locations in which right-of-entry was granted to verify desktop findings. According to the FEIS, an estimated 142 wetlands totaling approximately 54.5 acres were identified within the Preferred Alternative ROW. Exhibit 4-5 identifies wetland areas were delineated, transferred to an aerial background image using GIS, and characterized as adjacent (i.e., within the 100-year floodplain and potentially jurisdictional) or isolated.

EPA notes that the applicant's interpretation of adjacent and isolated wetlands for the purposes of this analysis will require verification with a USACE approved jurisdictional determination, and therefore the reported acreages of jurisdictional and non-jurisdictional wetlands may require adjustment.

In addition, Table 2-2, which includes environmental impacts of the range of alternatives analyzed, continues to indicate 45 acres of total wetland impacts for the Southern-New Alignment (preferred), including 10 acres of forested wetlands and 35 acres of emergent wetlands. EPA recommends conducting similar GIS analysis to more accurately quantify potential wetland impacts for each practicable alternative analyzed for the purposes of NEPA, and include in Table 2-2 to inform the determination of the least-environmentally damaging practicable alternative (LEDPA) for the purposes of the CWA Section 404 (404(b)(1) Guidelines). It appears that other alternatives would have fewer impacts to wetlands and waters of the U.S.

4.9.3 Wetlands, page 4-64

The FEIS states that when a field delineation of the Preferred Alternative has been completed a draft jurisdictional determination would be conducted, and the resulting report would be submitted to USACE for verification. Further, the FEIS continues to state that the USACE is the agency to make the final determination as to the jurisdictional status of any wetland. Please see previous comment regarding the role of the EPA in determining the jurisdictional status of a wetland or other water. EPA recommends full site access and field delineations be completed before a draft jurisdictional determination is submitted to USACE.

The FEIS states that although no site-specific assessments have been conducted it is anticipated that the functions of wetlands occurring within the proposed ROW of the Preferred Alternative would be permanently lost as a result of the Preferred Alternative. Also, it acknowledges that assessing the functions for all waters of the U.S., including streams and wetlands, would require right-of-entry access for the entire Preferred Alternative ROW, and that the results of the assessment would inform mitigation requirements. Applications for other segments of State Highway 99 have been submitted to the USACE prior to obtaining site access and completing field verification/assessment for the majority of the site, which precludes the Corps, the EPA, other agencies and the public from an efficient and complete review of the project's impacts and its compliance with 404(b)(1) Guidelines. The FEIS does not contain draft mitigation proposals, or a CWA Section 404 alternatives analysis that satisfies the 404(b)(1) Guidelines. Therefore, EPA recommends that field verification of all wetlands and field-based functional assessments be completed prior to submitting an application for a 404 permit. This will also aid the applicant in developing an appropriate mitigation plan for unavoidable impacts to waters of the U.S., which should be provided for agency and public review, and prevent unnecessary delays in the permitting process.

Table 4-23 Potential Wetland Impacts Within The Alternative Alignments, page 4-65

The FEIS states that the planning for the alignment of the Preferred Alternative included efforts to avoid and minimize impacts to wetlands. However, the distribution of wetlands within the Preferred

Alternative ROW and the geometric configuration of the proposed highway's design made complete avoidance impractical. Further, the FEIS does not discuss avoidance and minimization of impacts to wetlands through selection of a less damaging practicable alternative. The Guidelines require that the applicant determines the alternative route that avoids and minimizes impacts to wetlands (LEDPA), rather than choosing a preferred alternative and then subsequently determining whether further minimization is possible within the chosen alternative. As stated above, EPA recommends conducting a Section 404(b)(1) alternatives analysis for this project to determine the LEDPA. The LEDPA and the Preferred Alternative may not be the same alternative, which is why the EPA recommends that the LEDPA is identified during the NEPA process.

Based on Table 2-2, the FEIS identifies several alternatives to the Preferred Alternative (Southern-New) which appear to be less damaging in terms of impacts to waters of the U.S., including wetlands. CWA Section 404 regulations require that a CWA Section 404 permit only be issued for the LEDPA that meets the basic project purpose and complies with the 404(b)(1) Guidelines. The Southern 2 Alignment has the fewest wetland impacts and impacts fewer stream crossings, while the Northern alignment avoids all forested wetland impacts, impacts the second fewest total acres of wetlands, and would impact one fewer stream crossing than the Preferred Alternative. Therefore, based on information provided, it appears that either the Northern alignment or Southern 2 Alignment would likely be the LEDPA for the purposes of the Clean Water Act Section 404. The 404 alternatives analysis will require that the applicant specifically explain why each of these alternatives was found not to be practicable, as opposed to not preferable. Again, Table 2-2 has not been updated to reflect the additional potential wetlands identified in the ROW of the Preferred Alternative through GIS analysis, and the same analysis was not conducted for the other alternatives that were assessed under NEPA.

In Table 4-23 of the FEIS, the applicant characterizes the extent of adjacent and isolated wetlands within the Preferred ROW that were delineated using the GIS resources described above. The applicant acknowledges that adjacent wetlands with a significant nexus to downstream Traditional Navigable Waters (TNW) are jurisdictional under the CWA. However, the applicant has made the assumption that all wetlands that lie outside of the FEMA-mapped 100-year floodplain, or 1% annual flood frequency, are isolated and therefore are non-jurisdictional wetlands. The EPA recommends that an approved jurisdictional determination is obtained for all waters of the U.S. within the project area, to verify the acreages of waters that are jurisdictional and non-jurisdictional under the CWA, regardless the alternative that is selected. Wetlands located outside of the 100-year FEMA floodplain may have a significant nexus to downstream TNWs, through other physical, chemical and/or biological connections to those waters, aside from those resulting from overbank flooding.

4.10 Permits, page 4-68

No draft mitigation plans for impacts to waters of the U.S. were prepared prior to the FEIS or made available in the FEIS. In Section 5.4.6, Step 7: Assess Consequences and Consider/Develop Mitigation, the FEIS has a general statement that as part of the USACE permitting process, mitigation would be required to compensate for adverse impacts to wetland and stream resources. Mitigation measures, such as the purchase of credits from an authorized wetland or stream mitigation bank, enhancement of stream/riparian habitat, restoration of wetlands, creation of wetlands, or preservation of

existing wetlands would be required to compensate for impacts to jurisdictional streams and wetlands. The EPA generally supports mitigation that restores or enhances wetlands over preservation of existing resources, based on the 2008 Final Mitigation Rule.

In Section 7.6.2, the FEIS similarly states that the USACE's stream assessment procedure would be used to identify stream functions and services, which would serve as the basis for the development of compensatory mitigation to be considered as part of permit evaluation. Mitigation for stream impacts would likely be accomplished through the purchase of stream credits from an approved mitigation bank. Similarly, the applicant states that The Department of the Army permit application would include proposed mitigation to compensate for the lost functions and services for wetlands. Compensation would likely be accomplished through the purchase of wetlands credits from a mitigation bank approved by the USACE. The applicant did not include any more specific draft proposals or potential mitigation concepts in the FEIS for either wetland or stream resources. While the EPA generally recommends that draft mitigation proposals for impacts to Waters of the U.S. are included in the FEIS, at a minimum, the applicant should develop specific mitigation proposals for unavoidable impacts, prior to submitting its 404 permit application to the USACE.

4.24 Preferred Alternative Recommendation, page 4-95

The FEIS continues to state that indirect and cumulative impacts among all seven alternative alignments are equal. This statement may not be adequate for the purposes of the Clean Water Act Section 404 alternatives analysis, which requires that indirect and cumulative impacts are specifically analyzed and minimized, along with direct impacts to waters of the U.S. including wetlands. Therefore, EPA recommends indirect and cumulative impacts under each alternative is specifically analyzed, state the correlating impacts, and specific mitigation.

Step 5 in Section 5.4.6 of the FEIS identifies the proposed project may result in potentially substantial indirect effects, such as encroachment of wetlands that extend beyond the limits of the proposed ROW, and disruptions to wetland hydrology on the down-gradient side of the highway, potentially resulting in conversion of wetlands to uplands or reduction in wetland function. It also identifies induced growth effects, including filling wetlands for development and increased/redirected stormwater flows and non-wetland waters filling and other impacts.

Also, this section and Step 6, Analyze Indirect Effects and Evaluate Results, discuss induced growth effects on the floodplain, and state that the construction of the Preferred Alternative will result in increased development and impervious cover within the 100-year floodplain, but that enlarging or realigning channels to improve conveyance, and constructing stormwater detention facilities required by floodplain regulations will prevent an increase in risk of flooding within developments and the surrounding areas. The FEIS further states that as drainage improvements are implemented in developed areas, revisions of the extent and configuration of the mapped 100-year floodplain boundaries would be expected. In Section 6.2.5, the FEIS further acknowledges that stream modifications to reduce flood risk reduce the natural diversity of stream channels and potentially remove riparian habitat. By channelizing or otherwise hydrologically altering streams, channels and other drainage features, the flood frequency and duration of these waters may be altered, which can have a considerable impact on these aquatic

features themselves and other adjacent waters such as wetlands whose hydrology will be altered and potentially no longer receive overbank flows after modifications to streams and drainage features, such as those the applicant proposes will likely be used to convey increased stormwater volumes to reduce flood risk to developments.

Therefore, the EPA recommends that both direct and indirect impacts of the proposed project on the floodplain, including proposed reductions in the extent of the floodplain and hydrologic modifications within aquatic ecosystems are given serious consideration and analysis, and that the impacts to floodplains and the aquatic features within them are avoided to the maximum possible extent. The 404(b)(1) Guidelines require avoidance and minimization of not only direct impacts to waters of the U.S., but also secondary and cumulative impacts, such as those identified and discussed in this section.

Climate Change

The FEIS does not include a reasonable consideration of GHG emissions and climate change impacts. EPA recommends that NEPA analyses include an estimate of the direct and indirect greenhouse gas (GHG) emissions caused by the proposal, a discussion of the incremental impacts of the estimated GHGs, and an analysis of reasonable alternatives and/or practicable mitigation measures to avoid, reduce, or compensate for GHG emissions caused by the proposal. In addition, CO_2 emissions have centuries-long impacts, including global scale changes in ocean acidity, sea level, and mean temperature, as well as changes to local drought and precipitation levels. For purposes of informing decisionmakers and the public, EPA recommends this context be provided, and that estimated GHG emissions levels should be used as a general proxy to compare emissions levels from the proposal, alternatives, and potential mitigation. In other words, higher levels of incremental emissions cause higher levels of incremental impacts and risks.

Emissions

The EPA recommends that EISs estimate the direct and indirect GHG emissions caused by a proposal and its alternatives. Examples of tools for estimating and quantifying GHG emissions can be found on CEQ's website. These emissions levels can serve as a reasonable proxy for climate change impacts when comparing the alternatives and considering appropriate mitigation measures.

The EPA recommends that EISs describe measures to reduce GHG emissions associated with the project, including reasonable alternatives and appropriate mitigation, and disclose the estimated GHG reductions. The EPA further recommends that the Record of Decision commit to implementation of reasonable mitigation measures that would reduce project-related GHG emissions.

Climate Change Adaptation

We recommend including a summary discussion of climate change and ongoing and reasonably foreseeable effects of climate change relevant to the project and the project study area relevant to the proposal, based on U.S. Global Change Research Program assessments in the EIS's "Affected Environment" section. Future climate scenarios included in the assessments can be useful when considering measures to improve the resiliency of the proposal to the impacts of climate change as well as mitigation for potential impacts of the proposal that will be exacerbated by climate change.

The EPA recommends that consistent with federal policy, the proposal's design incorporate measures to improve resiliency to climate change where appropriate. These changes could be informed by the future climate scenarios addressed in the "Affected Environment" section. The EIS's alternatives analysis should, as appropriate, consider practicable changes to the proposal to make it more resilient to anticipated climate change. Changing climate conditions can affect a proposed project, as well as the project's ability to meet the purpose and need presented in the EIS. One such example would be infrastructure located in coastal regions that may be affected by sea level rise.

Effects of Climate Change on Project Impacts

When considering the potential impacts of the proposal, we recommend Federal agencies consider the future climate scenarios in the "Affected Environment" section to determine whether the environmental impacts of the alternatives would be exacerbated by climate change. If impacts may be exacerbated by climate change, additional mitigation measures may be warranted.